ABSTRACT

Implementations described herein relate to using a filter engine opcode tree
for evaluating multiple queries. The opcode tree includes opcode nodes and
branch nodes. Each opcode node includes one or more computer instructions
resulting from compiling a query. Executing the opcode tree a single time
evaluates each of multiple queries represented in the opcode tree. When a new
opcode node is added to the tree, the context of the opcode tree and the structure
of the new opcode are taken into account when modifying a branch node or an
opcode node. In certain situation, a branch node is optimized to include an
indexed lookup function such as a hash function, to optimize processing of opcode
nodes that depend from the branch node. Adding and removing nodes to/from the
opcode tree can be handled by a filter engine component or by an opcode object
being added to/removed from the tree.

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